

What is claimed is:

1. An aberration correcting device used by an aberration correcting unit for correcting an aberration of a light beam radiated onto an object to be detected and then reflected from the object, the aberration correcting device comprising:

a first corrector configured to correct the aberration of the light beam radiated onto the object; and

a second corrector configured to correct the aberration of the light beam reflected from the object and to divide the reflected light beam into a plurality of light beams.

2. The aberration correcting device according to claim 1, wherein each of the first and second correctors comprises

a refraction index changing element configured to change a refraction index in response to a voltage to be applied thereto; and

an electrode configured to apply the voltage to the refraction index changing element to correct the aberration.

3. The aberration correcting device according to claim 2, wherein the electrode of each of the first and second correctors is divided into at least two electrode segments to form an electrode pattern so that the electrode pattern gives the light beam a phase distribution,

wherein the phase distribution given by the electrode pattern of the second corrector is formed by superposing, one on the other, a first phase distribution to correct the aberration of the light beam reflected from the object and a second phase distribution to divide the reflected light beam into the plurality of light beams.

4. The aberration correcting device according to claim 3, wherein the first and second correctors are composed of first and second liquid crystal elements, respectively.

5. The aberration correcting device according to claim 4, wherein both of the first and second liquid crystal elements are formed into one element with an intermediate substrate used in common.

6. The aberration correcting device according to claim 4, wherein the second liquid crystal element is composed of a first liquid crystal panel of which electrode pattern gives the first phase distribution and a second liquid crystal panel of which electrode pattern gives the second phase distribution.

7. The aberration correcting device according to claim 4, wherein the first liquid crystal element is arranged to orient liquid crystal molecules in accordance with a polarized direction of the light beam radiated onto the object and

the second liquid crystal element is arranged to orient liquid crystal molecules in accordance with a polarized direction of the light beam reflected from the object.

8. The aberration correcting device according to claim 7, wherein both of the first and second liquid crystal elements are formed into one element with an intermediate substrate used in common.

9. The aberration correcting device according to claim 7, wherein the second liquid crystal element is composed of a first liquid crystal panel of which electrode pattern gives the first phase distribution and a second liquid crystal panel of which electrode pattern gives the second phase distribution.

10. An aberration correcting unit for correcting an aberration of a light beam radiated onto an object to be detected and then reflected from the object, the aberration correcting unit comprising:

an aberration correcting device comprising a first corrector configured to correct the aberration of the light beam radiated onto the object; and a second corrector configured to correct the aberration of the

light beam reflected from the object and to divide the reflected light beam into a plurality of light beams;

a first driver configured to drive the first corrector; and

a second driver configured to drive the second corrector.

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11. The aberration correcting unit according to claim 10, wherein the object is an optical recording medium.

12. The aberration correcting unit according to claim 11, wherein
10 the second corrector is configured to correct the aberration of the light beam reflected from the optical recording medium and to divide the reflected light beam into two light beams.

13. The aberration correcting unit according to claim 11, wherein
15 the second corrector is configured to correct the aberration of the light beam reflected from the optical recording medium and to divide the reflected light beam into four light beams.

14. An optical pickup reading or writing bits of information from or
20 onto an optical recording medium by radiating a light beam onto the optical recording medium and receiving the light beam reflected from the optical recording medium, comprising:

a first corrector configured to correct an aberration of the light beam radiated onto the optical recording medium; and

25 a second corrector configured to correct an aberration of the light beam reflected from the optical recording medium and to divide the reflected light beam into a plurality of light beams.

15. An aberration correcting method for correcting an aberration of
30 a light beam radiated onto an object to be detected and then reflected from the object, the method comprising the steps of:

driving a first driver;

first correcting the aberration of the light beam radiated onto the object by using the first driver that has been driven;

driving a second driver; and

- 5 second correcting the aberration of the light beam reflected from the object and to divide the reflected light beam into a plurality of light beams by using the second driver that has been driven.